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Local fruit varieties for sustainable cultivations: Pomological, nutraceutical and sensorial characterization

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In the last decades, intensive cultivation development of fruit species favored a widespread of few cultivars leading to standardization of productions and at the same time a loss of old varieties and biodiversity. Indeed, the old varieties belonging to local genetic pools show interesting traits such as environmental hardiness and suitability for low-input agricultural systems. Moreover, the old varieties are witness of local history, traditions and economy. Taking into account these considerations, a research started in Lucca province (central Italy), area where the pride for traditional foods is still present. Fruits from local varieties of stone and pome species mainly growing under organic systems were collected in order to assess instrumental analysis concerned the main physical-chemical parameters (weight, skin colour, firmness, total soluble sugars, titratable acidity); biochemical analysis concerned nutraceutical traits (total antioxidant capacity, total phenols); sensorial analysis conducted with trained blind and visually impaired people. Thus latter new evaluation was introduced with the aim to go beyond appearances considering that fruits from organic cultivations can often show imperfections, preventing the consumer acceptance. People with visual disability having an increased sensitivity to taste and smell permitted to evaluate the intrinsic quality of fruits. Some varieties characterized by good pomological and nutraceutical traits; high sensory quality and acceptability could have interest for promoting new sustainable cultivations. These genotypes could be particularly suitable for local markets appreciated by more and more consumers which demand for high quality and health-safety food, taking care of the environmental protection.

Biography

Susanna Bartolini is Assistant Professor in Arboriculture and Fruit culture at Scuola Superiore Sant'Anna, Institute of Life Sciences (Pisa, Italy). Her main research activities cover topics on floral and fruiting biology of several fruit species and pomological and nutraceutical traits of fruits. She is Head of scientific programs sponsored by national institution and European Union. She is author and co-author of more than 140 papers published on national and international scientific journals..

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